

Chronic lymphocytic leukemia and cryoglobulinemic glomerulonephritis

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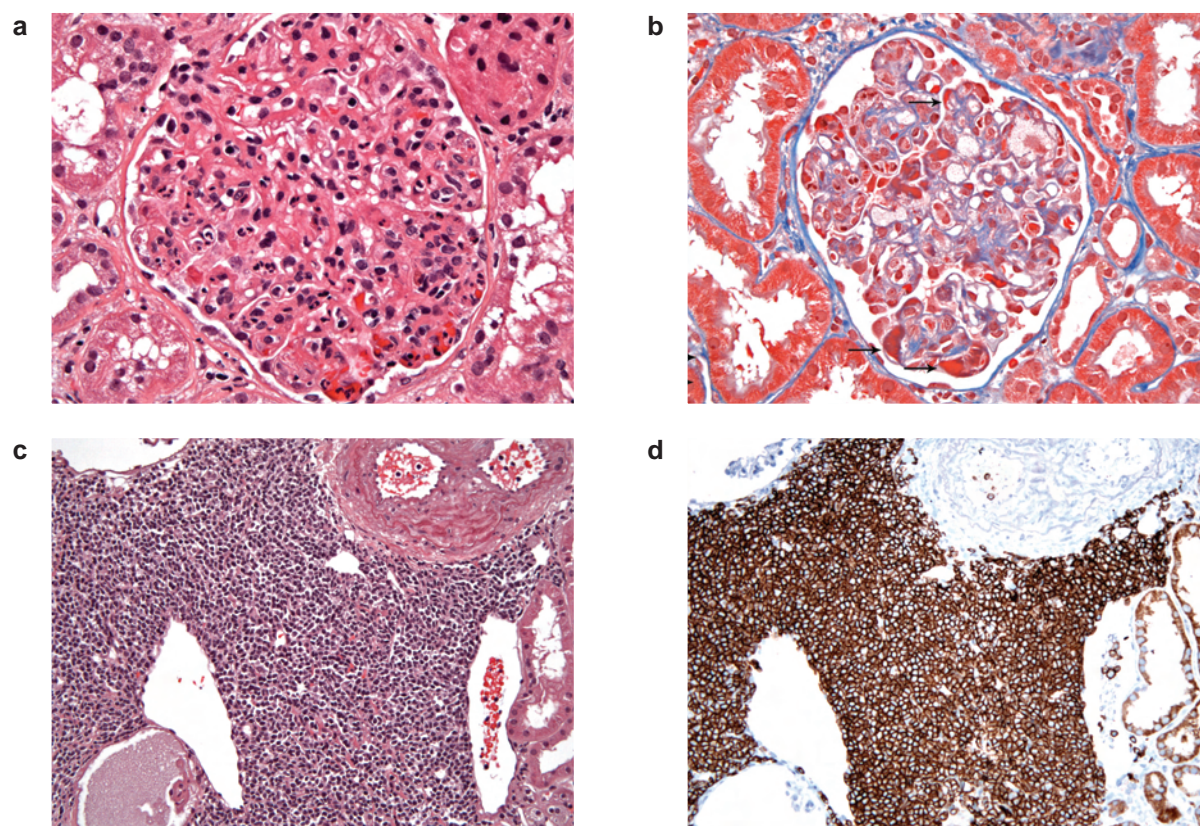


Figure 1 | Renal biopsy findings. (a) A glomerulus exhibits diffuse endocapillary proliferation with prominent infiltrating neutrophils and monocytes. (Hematoxylin and eosin; original magnification, $\times 400$.) (b) In another glomerulus, the large subendothelial fuchsinophilic (red) deposits are prominently seen (arrows). (Trichrome; original magnification, $\times 400$.) (c) Low-power view showing a dense interstitial aggregate of monomorphic B cells, representing renal parenchymal infiltration by chronic lymphocytic leukemia. (Original magnification, $\times 100$.) (d) The same field seen in panel c shows diffuse positivity for CD20, a marker of B cells. The leukemic cells also showed dim CD5 expression (not shown). (Original magnification, $\times 100$.)

A 58-year-old woman with chronic lymphocytic leukemia and a white blood cell count of 119×10^9 per liter (normal range 4.3×10^9 to 10.8×10^9 per liter) was found to have a 24-hour urine protein of 3.1 g per day. Serum and urine immunofixation was positive for an IgG λ monoclonal protein. The patient was found to have a circulating cryoglobulin, with immunofixation of the cryoprecipitate similarly revealing monoclonal IgG λ . Further work-up showed a creatinine level of 0.9 mg per dl (69 μ mol per liter), an albumin level of 3.6 g per dl (36 g per liter; normal range 3.6–4.9 g per dl, 36–49 g per liter), normal serum

complements, and negative serologies. Renal biopsy revealed cryoglobulinemic glomerulonephritis (Figure 1a,b), and the deposits stained positively for IgG, C3, and λ (with negativity for κ). IgG subtype staining was positive for IgG1 with minimal to absent IgG2, IgG3, and IgG4. Throughout the renal cortex and medulla there were also well-circumscribed interstitial aggregates of monomorphic B cells, consistent with renal parenchymal infiltration by chronic lymphocytic leukemia (Figure 1c,d). Cryoglobulinemic glomerulonephritis is a rare finding in the setting of chronic lymphocytic leukemia.